For decades, political support for the U.S. sugar program has been underpinned by the general sense that the costs of producing sugar in this country are quite high relative to prices prevailing in world markets. Thus, the elimination of government support would lead to the certain death of the sugar industry. Recent analysis indicates that this view simply is not correct. Rather, the U.S. industry would continue to produce sugar economically in the absence of government support.

This paper will review the recent history of U.S. government intervention in sugar markets from the time price supports were reestablished as part of the 1981 farm bill. Since then, sugar has been subject to a higher degree of government control than any other major agricultural commodity. Among the consequences of those protectionist policies have been higher incomes for U.S. sugar growers, expanded domestic production, reductions in imports from traditional suppliers, increased trade frictions, U.S. unwillingness to provide meaningful sugar market access during trade negotiations, higher costs to consumers, and transfer of confectionary manufacturing capacity away from the United States to countries with more open and competitive sugar markets.

The paper concludes with a discussion of two primary alternatives for ending U.S. sugar protectionism. Unilateral reform would be quick, simple, entirely within the scope of U.S. policy, and would lead to a market-oriented and competitive U.S. sugar industry. Multilateral reform would require extended negotiations with sugar producers and governments of other countries, but has the prospect of creating a more open and nonsubsidized global marketplace. Domestic sugar interests would prefer a multilateral approach. American consumers, commercial sugar users, taxpayers and free traders would favor unilateral reform. The best approach may be to set an example for the world by enacting unilateral reforms, then use the resulting moral leverage to build momentum for multilateral liberalization.
The U.S. sugar industry has argued that it could not survive without government support, but a new analysis indicates that this view simply is not correct.

INTRODUCTION

The U.S. government’s involvement in sugar markets has a long history. The First Congress of the United States imposed a tariff on imported sugar in 1789, primarily for the purpose of raising revenue. In 1842 the policy was adjusted by creating a higher tariff for imports of refined sugar than for raw sugar. This was done to protect the U.S. sugar refining industry and to encourage domestic production of sugarcane. Sugar policy no longer was just about generating revenue for the Treasury, it also served to protect incomes of businessmen and plantation owners. In more recent decades the rationale for government intervention has shifted almost entirely away from producing revenue and instead is focused on supporting domestic sugar prices.

The current phase of U.S. sugar protectionism began with the adoption of the 1981 farm bill. Since then, sugar has been subject to a higher degree of government control than any other major agricultural commodity. Among the consequences of those protectionist policies have been higher incomes for U.S. sugar growers, expanded domestic production, reductions in imports from traditional suppliers, increased trade frictions, U.S. unwillingness to provide meaningful sugar market access during trade negotiations, higher costs to consumers, and transfer of confectionary manufacturing capacity away from the United States to countries with more open and competitive sugar markets.

Political support for the U.S. sugar program has been underpinned for decades by the general sense that the costs of producing sugar in this country are quite high relative to prices prevailing in world markets. Since many other countries also have policies that distort sugar production and trade, the U.S. industry has argued that it could not survive without government support. Many policymakers have accepted that argument, which has helped to prevent reform measures from moving forward.

A new analysis indicates that this view simply is not correct. A recent USDA publication (partially recapped in this paper) presents a study of global sugar production costs. That analysis clearly suggests that the U.S. sugar industry would remain viable, even if the United States was to reform its sugar program unilaterally.

Sugar production costs in this country may be roughly 20 percent higher than those of the world’s lowest-cost producers. However, U.S. costs are much lower than those of the world’s highest-cost producers, and they are in the middle of the pack overall when compared to other sugar-growing countries. World market prices generally are high enough to cover the costs borne by efficient producers, including those in the United States.

The U.S. sugar industry also has a significant advantage due to its proximity to sizeable commercial users of sugar in the world’s largest and wealthiest economy. There are substantial costs involved in transporting and refining sugar from regions with low production costs, such as south-central Brazil, to users in the United States. Being located relatively near major customers provides a form of natural protection to U.S. sugar producers.

The argument that the U.S. sugar industry would prove to be viable in the absence of price supports and import restrictions is supported by the example of Canada. That country has no sugar import restrictions or domestic support measures. Despite those free-market conditions, sugar beets continue to be produced in Alberta. Defenders of the U.S. policy status quo have yet to explain why the U.S. industry would die from exposure to open competition, while the Canadian industry lives on.

There are two primary alternatives for ending U.S. sugar protectionism. Unilateral reform would be quick, simple, entirely within the scope of U.S. policy, and would lead to a market-oriented and competitive U.S. sugar industry. Multilateral reform would require extended negotiations with sugar producers and governments of other countries, but it has the prospect of creating a more open and nonsubsidized global marketplace. A multilateral approach would be in line with other sectoral reform ef-
forts (e.g., Pharmaceutical Zero-for-Zero Initiative, Information Technology Agreement, etc.) undertaken by member nations of the World Trade Organization (WTO).

Domestic sugar interests would prefer a multilateral approach, but U.S. consumers, commercial sugar users, taxpayers and free traders would favor enacting unilateral reform. The best approach may be to set an example for the world by enacting unilateral reforms, then use the resulting moral leverage to build momentum for multilateral liberalization.

THE SUGAR DEBATE OF 1981

The 1981 farm bill debate is instructive. It took place at a time when the late 1970s period of high-priced sugar was coming to a close. There were no import quotas and no domestic supports in place to regulate the U.S. sugar market; prices were established in response to developments in supply and demand. Sugar growers had become accustomed to relatively strong prices and wanted the good times to continue. They proposed including sugar provisions in the new legislation—a price support loan program at 18 cents per pound and authority to reinstate import quotas. The program works as follows: A sugar processor may use sugar in its inventory as collateral with which to obtain a loan from the USDA’s Commodity Credit Corporation (CCC). If the processor is not able to sell sugar at a higher price into the commercial market, it may forfeit the sugar to the CCC in lieu of repaying the loan. Because all domestic sugar potentially can be “sold” to the CCC at a set price, no processor is willing to sell for less. Thus, the loan rate acts as a floor for U.S. sugar prices.

The Reagan Administration had just taken office. One of the administration’s key objectives was to try to make U.S. farm policy more market oriented and less dependent on government intervention. The USDA was willing to consider a loan set at only 12 cents per pound, pointing out that 18 cents was well above the average cost of production and seemed to be excessively generous.

Senator Rudy Boschwitz (R-MN), a member of the Agriculture Committee, played an interesting role in that debate. He represented Minnesota, the state with the largest production of sugar beets. It was politically difficult for him not to support the growers’ request. On the other hand, he had been a business entrepreneur prior to entering the Senate and had confidence in the power of free markets. He was concerned with how the marketplace would respond to a sugar loan of 18 cents, expecting that such a high support level would lead to an oversupplied market and encourage more government involvement in the future.

Boschwitz decided to offer an amendment during committee markup that would establish a loan at 15 cents—the midpoint between the growers’ request of 18 cents and the administration’s position of 12 cents. Sugar interests would have none of it, and the amendment got crushed. The vote wasn’t even close. The 18-cent loan (phased in over several years) became law, and the marketplace has been dealing with the consequences ever since. (Growers appear to have used a typical negotiating approach: start by asking for more than you expect to receive. They may have been as surprised as anyone to have gotten it.)

Arguments made (unsuccessfully) during the 1981 debate included:

- Setting the price too high would lead to reductions in consumption, including the replacement of sugar by high-fructose corn syrup (HFCS) in liquid sweetener applications. (Conversion of U.S. soft drink production from sugar to HFCS was complete within a decade.)
- Consumers would pay unnecessarily high prices for sugar. (From 2000 to 2012, the average price of U.S. sugar was more than double the worldwide average.)
- Companies and workers that manufacture candy and other sugar-containing products would be disadvantaged when U.S. sugar prices exceed world-market levels. (In 2006 a Commerce Department report found that three candy-mak-
In 2006 a Commerce Department study found that three candy-making jobs are lost for each sugar growing and processing job saved by higher sugar prices.

- Confectionary producers may be prompted to close factories in the United States and shift production to other countries. (Press reports indicate that relocating production overseas accounted for approximately 6,400 job losses in the five years prior to 2006.)
- An 18-cent loan rate would encourage overproduction and lead to surpluses that would push traditional imports out of the U.S. market. (The quantity of U.S. sugar production rose 57 percent from 5.2 million metric tons, raw value (MTRV) in 1979/80 to 8.2 million MTRV in 2012/13. The sugar marketing year runs from October 1 to September 30.) U.S. sugar imports fell 30 percent from 4.3 million MTRV in 1979/80 to 3.0 million MTRV in 2012/13.

Although all of those concerns eventually were borne out, the attitude of the sugar industry at the time was, “Don’t worry. We’ll address those issues in the future, if they ever present themselves.” Unfortunately, the industry’s response to those marketplace developments has not been to make the program more market-oriented, but rather to seek ever greater government intervention to maintain the domestic price level.

**EVOLUTION OF SUGAR POLICY, 1982 TO TODAY**

The new price-support program was implemented at a time when global sugar prices were falling. The United States quickly became a relatively high-priced island amidst an ocean of lower-priced sugar seeking to find a home. Not surprisingly, the government deemed it necessary to reimpose sugar import quotas in 1982. Otherwise, imported sugar would have served a dominant share of U.S. demand, while USDA’s Commodity Credit Corporation (CCC) would have taken ownership of much of the sugar produced in the United States.

The generous U.S. sugar program led to generally profitable conditions for growers. This encouraged increased domestic output, which eventually threatened to push imported sugar entirely out of the marketplace. To prevent that outcome, the 1990 farm bill created authority for the USDA to impose controls on the marketing of domestically grown sugar. The overall allotment quantity (OAQ) for domestic beet and cane sugar establishes the maximum level of U.S.-grown sugar that can be marketed for domestic use. Currently this system reserves 85 percent of the U.S. market for domestically grown sugar, with the remaining 15 percent being supplied by imports. In the 2013 marketing year, total U.S. sugar demand (both domestic and imported) amounted to 10.7 million MTRV. Because of a reduced U.S. crop that year, the overall allotment quantity was set at 8.8 million MTRV (82 percent of demand). The ability to forbid the marketing of domestically produced sugar has allowed the United States to honor its World Trade Organization (WTO) commitment to continue importing sugar. The implementation of the Uruguay Round agreement in 1995 guaranteed import access for 1,117,195 metric tons of raw sugar and 22,000 metric tons of “other” (refined and specialty) sugars. The WTO quota is divided among 40 countries based on the quantity of sugar they had exported to the United States in the late 1970s and early 1980s.

The North American Free Trade Agreement (NAFTA) began to be implemented in 1994, but its sugar provisions were phased in over 15 years and finally took full effect in 2008. When NAFTA was being negotiated, Mexico was a net sugar importer. More recently it has become a net exporter. Sugar production in both the United States and Mexico varies from year to year as growing conditions change. Although the USDA attempts to manage the sugar market in ways that prevent the government from acquiring sugar, that can prove tricky in years of large U.S. and Mexican production. Techniques the government has used to deal with excessive supplies of sugar include paying foreign quota...
Whenever the marketplace has been threatened with being over-supplied, the sugar industry has advocated additional interventions to curtail the availability of sugar and raise the price.

SUGAR POLICY IN PERSPECTIVE

Members of the U.S. industry who crafted this nonmarket, government-driven sugar policy likely had decent intentions. They started down a protectionist path 33 years ago with a relatively simple program designed to hold the price at a high level, often above the price prevailing in the world market. The sugar program requires the USDA to acquire sugar and convert it to nonfood uses whenever prices fall to the support level. This, however, can lead to significant government costs, which tend to erode political support for the program. Thus, whenever the marketplace has been threatened with becoming oversupplied, the sugar industry has advocated additional interventions to curtail the availability of sugar and raise the price.

The industry’s focus on keeping sugar supplies tight has led them routinely to oppose liberalization of imports as part of trade agreements, such as the Trans-Pacific Partnership (Australia, a major sugar exporter, is a member.) The growers are caught up in a protectionist cycle that they seem unable to escape, and are rightfully considered to be the most protectionist segment of U.S. agriculture.

American sugar policy is quite different from policies applied to other major agricultural commodities for a simple reason: the United States is a net importer of sugar. Crops such as soybeans and wheat have more than one-third of their production exported each year. A
policy to restrict imports of those commodities wouldn't have much of an effect on the domestic market and certainly would do little or nothing to raise the incomes of farmers. Instead, the government tries to avoid doing things that would reduce the price competitiveness of exports. This means that U.S. policies for export crops allow prices to fall when supplies are abundant, while still providing a safety net for growers. Those policies can be quite costly to the federal budget. Sugar policy, on the other hand, provides support to growers largely by restricting imports to keep prices high. It thus transfers income to growers from consumers, but at a relatively low cost to taxpayers. Taxpayers are not exempt, however. Sugar supplies were so abundant in the 2013 marketing year that the USDA spent more than $250 million to convert the surplus into ethanol. The current U.S. sugar program can be quite a bit more costly to the U.S. Treasury than designers of the policy had hoped.

WORLDWIDE PRODUCTION COSTS FOR SUGAR AND HIGH-FRUCTOSE SYRUP

Sugar growers long have argued that prices in global sugar markets are influenced by subsidies provided by numerous governments. They have asserted that the U.S. sugar industry soon would be driven out of business if it was forced to compete in an unfair world market. Thus, the existing system of price supports and import restrictions was said to be needed to prevent the extinction of U.S. sugarcane and sugar beet production. That thinking has become conventional wisdom among many U.S. policymakers. However, the best available information strongly suggests that most U.S. sugar producers could adjust successfully to an open and competitive sugar market.

Figure 1 appeared in the May 15, 2014, edition of Sugar and Sweeteners Outlook, published by USDA’s Economic Research Service. It shows the distribution of sweetener production costs for cane sugar, beet sugar, and high-fructose syrup (HFS) for producers worldwide averaged over three marketing years, 2010/11 to 2012/13. The graph is based on an analysis by the consulting firm LMC International.

The graph requires a bit of explanation. The vertical axis represents an index of production costs, with “low cost—cane” (Brazil, Australia, Colombia, Guatemala and a number of other countries) set at 100 percent. (A complete listing of countries in various categories is provided in Table 1.) Observe that some “low cost—HFS” can be produced for slightly less than “low cost—cane.” The highest-cost sugar comes from beets grown in a number of countries, not including the United States. Shifting now to the horizontal axis, it shows the amount of production at various cost levels, with global sweetener production totaling 219 million metric tons, white sugar equivalent.

Notice that the line moves gradually upward with the lowest-cost production on the left and highest-cost on the right. As readers may recognize from introductory economics courses, an upward-sloping line based on production costs is commonly referred to as a supply curve. This chart provides a reasonable approximation of a global supply curve for sugar and HFS.

How competitive are U.S. sweeteners? Since the American Midwest is home to the most abundant supply of corn in the world, it’s perhaps no surprise that HFS produced from corn, commonly known as high-fructose corn syrup (HFCS), is at the lower left. The world’s lowest-cost nutritive (not low-calorie) sweetener is derived not from sugarcane or sugar beets, but rather from corn or other competitively priced starches. In the middle of the chart is a category called “low cost—beet.” The U.S. beet-sugar industry is part of that group, along with producers primarily in European countries. Sugarcane production in the United States is just the next small step up the curve in the “NAFTA” section, which also includes Mexican sugar production. It is interesting to note that the cost of producing beet and cane sugar in the United States falls roughly in the middle of the pack. Approximately 60 million metric tons of sugar are produced at higher costs in other countries.
The message of this global supply curve is that U.S. sugar producers should do quite well in response to a worldwide reform of sugar policies. If policies were liberalized globally, higher-cost producers in other countries may find it financially advantageous to curtail output. Most or all U.S. growers should continue to experience reasonable earnings.

What would be the effect if the United States acted alone in ending its domestic support program and import restrictions? Although average U.S. production costs are not far above those of the lowest-cost producers, the United States is unlikely to start exporting sugar to other countries. Rather, since not enough sugar is produced in this country to meet demand, the U.S. sugar industry would continue to concentrate on serving the domestic market. American growers enjoy a considerable advantage from being located close to major commercial customers in one of the world’s largest and wealthiest sugar-consuming countries. Proximity to a large customer base is an advantage not to be underestimated. Even though lower-cost sugar may be produced in south-central Brazil, it costs a substantial amount of money to transport Brazilian raw sugar to a U.S. port and to refine it. Currently those costs add up to around 24 cents per pound, about equal to the USDA’s loan rate for refined beet sugar of 24.09 cents per pound. Shipping sugar from a coastal refinery to a customer in the interior of the country would raise costs further. American sugar producers have the built in “protection” of being located in the right place—relatively
### Table 1
**Sweetener Cost Categories and Classification of Sweetener Producers on a Regional Basis**

<table>
<thead>
<tr>
<th>Cane Sugar</th>
<th>Beet Sugar</th>
<th>HFS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Cost</strong></td>
<td><strong>Low Cost</strong></td>
<td><strong>Low Cost</strong></td>
</tr>
<tr>
<td><strong>Cyclical Asia and Oceana</strong></td>
<td><strong>Cyclical Latin America</strong></td>
<td><strong>Afica</strong></td>
</tr>
<tr>
<td>Australia</td>
<td>China</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>Brazil (C.S.)</td>
<td>India</td>
<td>Fiji</td>
</tr>
<tr>
<td>Brazil (N.E.)</td>
<td>Pakistan</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Colombia</td>
<td>Iran</td>
<td>Bolivia</td>
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<tr>
<td>El Salvador</td>
<td>Japan</td>
<td>Costa Rica</td>
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<tr>
<td>Ethiopia</td>
<td>Papua New Guinea</td>
<td>Cuba</td>
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<td>Guatemala</td>
<td>Philippines</td>
<td>Dominican Republic</td>
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<td>Malawi</td>
<td>Sri Lanka</td>
<td>Ecuador</td>
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<td>Nicaragua</td>
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<td>Paraguay</td>
<td>Vietnam</td>
<td>Guyana</td>
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<tr>
<td>Peru</td>
<td>Honduras</td>
<td>Mozambique</td>
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<tr>
<td>South Africa</td>
<td>Jamaica</td>
<td>Panama</td>
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<tr>
<td>Swaziland</td>
<td>St. Kitts</td>
<td>Trinidad</td>
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<td>Thailand</td>
<td>Venezuela</td>
<td>Uganda</td>
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<td>Zambia</td>
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</tbody>
</table>

Those who argue that the U.S. industry would be destroyed by liberalization have yet to explain how sugar can be produced successfully in the open and competitive Canadian market.

MOVING TOWARD LIBERALIZATION

There are two basic alternatives for moving sugar policy in the direction of market-oriented reform. One would be to undertake unilateral liberalization, which would involve eliminating or substantially reducing the loan rate and ending import restrictions. This approach has the distinct advantage of being simple and entirely within the purview of U.S. policymakers; no time-consuming international negotiation would be required. Such proposals have been offered and defeated—sometimes only narrowly—during congressional farm bill debates. As with ending any trade-restricting measure, the benefits to the broader U.S. economy would be greater than the “costs” that might be experienced by sugar producers when their artificial income support is removed. Thus, society as a whole would be better off. The economy no longer would be forced to absorb significant deadweight losses associated with the inefficient allocation of resources in the production and use of sugar.

The second alternative would be to seek global reform of sugar policies. The potential economic gains from ending or reducing trade-distorting policies in all countries are greater than with unilateral reform, but also are likely to take longer to achieve. The domestic sugar industry is correct to argue that there are many distorting policies in other countries. A few examples include: support to sugar via ethanol programs in Brazil, Colombia, and the EU; state ownership in Indonesia and Mexico; guaranteed support prices in China, the EU, India, Indonesia, Thailand, and the United States; and import tariffs in most countries. However, the fact that other countries implement sugar policies that lower the efficiency of their economies is no reason for the United States to continue to do so.

Interestingly, support for multilateral reform has been a long-established—but very much underemphasized—policy position of the American Sugar Alliance, the umbrella organization representing U.S. growers. Skeptics may argue that this policy position exists just for show and that sugar interests hope never to have to act on it. This may be an overly jaundiced view, however. Gridlock in the Doha Round of WTO negotiations has meant that sugar interests haven’t had a good opportunity to advance their free-trade policy position for several years.

Hope for a free market in sugar was strong enough in the years prior to the start of the Doha Round negotiations that a multinational coalition was organized to pursue it. The Glob-
Sugar producers have taken the de facto position that maintaining the sugar program should be the central organizing principle of U.S. trade policy. It is time for the United States to end that perception by eliminating the sugar program unilaterally.

CONCLUSION

For the past several decades, U.S. policy has evolved to make the sugar program ever more restrictive, anti-market, and protectionist. The program’s large economic costs are borne by consumers, manufacturers of sweetened products and their employees, as well as efficient sugar producers in other countries. Another casualty has been U.S. trade policy, which often has been held hostage by the perceived need to maintain the sugar status quo. Those costs have far outweighed the benefits received by U.S. growers, resulting in large deadweight losses for the economy.

A recent study indicates that the U.S. sugar industry could continue to produce sugar viably in the absence of the program’s price-enhancing provisions. Sugar growers have the advantage of being located relatively near major commercial sugar buyers in the world’s largest and wealthiest economy. Demand for sugar in the United States is not going to go away. The likelihood that the U.S. sugar industry could adjust to a free and open market is underscored by the continued production of sugar beets in Canada, a neighboring country with no import restrictions or domestic supports.

Sugar producers have taken the de facto position that maintaining the sugar program should be the central organizing principle of U.S. trade policy. It is time for the United States to end that perception by eliminating the sugar program unilaterally. That decisive step would be noticed in the sugar world. It has the prospect to create meaningful momentum toward a global agreement to liberalize production and trade in sugar.

NOTES

2. Ibid.

3. Commodity loan programs are operated by the U.S. Department of Agriculture through its Commodity Credit Corporation (CCC). The “loan rate” in 2014 for raw cane sugar is 18.75 cents per pound, 24.09 cents for refined beet sugar.


6. Ibid.


9. There is no maximum amount of sugar that the CCC is allowed to acquire. In the absence of import restrictions, it would theoretically be possible for all U.S.-produced sugar to enter government stocks, while all commercial sugar demand could be served by lower-priced imports. Sugar-import quotas restrict the quantity of sugar that can enter the United States from countries other than Mexico, thus generally allowing the domestic price to remain high enough so that forfeitures of sugar to the CCC are either relatively small or nonexistent.


11. Ibid.


16. Ibid, p. 18: “For cane sugar, countries are classified as: low-cost; Cyclical Asia, Asia and Oceania; Latin America, NAFTA, and Africa. Regional groupings exclude countries that are classified as either “low-cost” or “Cyclical Asia.” Beet sugar and HFS are each split between low-cost producers and higher cost producers. . . . Besides Brazil, the low-cost category includes producers in Latin America (Colombia, El Salvador, Guatemala, Nicaragua, Paraguay, and Peru), Asia and Oceania (Australia and Thailand), and Africa (Ethiopia, Malawi, South Africa, Swaziland, and Zambia). Cyclical Asia includes China, India, and Pakistan. Production in
these countries is volatile, with frequent year-to-year sugar trade fluctuations. The NAFTA region comprises the United States and Mexico."

17. Government policies would tend to maintain production in some countries—including the United States—regardless of the world price level, so this chart would function as a true supply curve only if there was greater liberalization in global sugar markets. Also, the curve would give a clearer indication of potential supply responses to any price change if it was based on marginal costs rather than average costs.

18. As of November 2014, the No. 11 futures price for raw sugar in nearby months was about 16 cents per pound. The No. 11 contract generally equates to the free-on-board (FOB) vessel price for raw sugar at Brazilian ports. Cost for shipping the sugar to a U.S. coastal refinery is 2–3 cents. Refining costs consist of a shrink factor of roughly seven percent, plus about 5 cents per pound. So the approximate cost of bringing world-price raw sugar to the United States and refining it at a portside facility would be: 16 cents + 2 (or 3) cents freight + 7 percent shrink (18 cents x 1.07 = 19.26) + 5 cents for refining = something greater than 24 cents per pound. (The CCC loan rate for refined beet sugar is 24.09 cents per pound.) Inland transportation to a U.S. customer would be an added cost.


